

# **Rates and Mechanisms of Metal Reduction and Oxidation**

**FRC Working Group Meeting  
03/15/04**

# Session Introduction

## Objectives:

- Share most recent research results obtained with FRC and other field sediments.
- Encourage collaboration amongst NABIR investigators to establish more direct links to field-scale projects.
- Provide support and specific information for reactive transport modeling of the FRC site.

# Agenda

- Meeting introduction; Bill Burgos, PSU
- Microbial Fe(III) reduction in FRC sediment columns; John Komlos, Princeton
- Solid-phase iron transformations during biological Fe(III) reduction; Shawn Benner, Desert Research Institute
- Biological U(VI) reduction at the solid-water interface; Eric Roden, University of Alabama
- Uranium reduction and re-oxidation under sulfate-reducing conditions; Brent Peyton, Washington State University
- Rates and mechanisms of uranium re-oxidation under nitrate-reducing conditions; John Senko, Univ. Oklahoma
- Group participation/discussion/input

# **Rates and Mechanisms of Metal Reduction and Oxidation**

## **Deliverable from Group Leader:**

Report to summarize and synthesize state of knowledge

## **Draft Report Format:**

- 1 – mechanisms of metal reduction;
- 2 – rates of metal reduction;
- 3 – emerging research needs/knowledge gaps.

# Participant Input Needed!

- list of publications from your research that contain rate data or mechanistic information
- list the reactions you have studied and plan to study
- specify whether you have detailed kinetic data
- can you propose a rate formulation with specific rate parameters?

**Help prepare the draft report!**